
Modeling neurodevelopmental disorders using human neurons.

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Public Summary:

The cellular and molecular mechanisms of neurodevelopmental conditions such as autism spectrum disorders have been studied intensively for decades. The unavailability of live patient neurons for research, however, has represented a major obstacle in the elucidation of the disease etiologies. Recently, the development of induced pluripotent stem cell (iPSC) technology allows for the generation of human neurons from somatic cells of patients. We review ongoing studies using iPSCs as an approach to model neurodevelopmental disorders, the promise and caveats of this technique and its potential for drug screening. The reproducible findings of relevant phenotypes in Rett syndrome iPSC-derived neurons suggest that iPSC technology offers a novel and unique opportunity for the understanding of and the development of therapeutics for other autism spectrum disorders.

Scientific Abstract:

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